REMARKS

This Amendment, submitted in response to the Office Action dated November 3, 2003, is believed to be fully responsive to each point of rejection raised therein. Accordingly, favorable reconsideration on the merits is respectfully requested.

As a preliminary matter, claim 16 is objected to for informalities. Claim 16 has been amended as indicated above.

Claims 2, 3 and 5-17 are pending in the present application. Claim 11 has been allowed. Claim 7 has been objected to but would be allowed if rewritten in independent form. Claim 15 has been rejected under 35 U.S.C. 112, first paragraph. Claim 15 has also been rejected under 35 U.S.C. 112, second paragraph. Claims 9 and 10 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Newman et al. (US 5,420,441). Claims 2, 3, 5, 6, 8, 12-14, 16, and 17 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Newman in view of Farrokhnia et al. (US 6,231,231). Applicant submits the following in traversal of the rejections.

Rejection of claim 15 under 35 U.S.C. 112, second paragraph

Claim 15 has been canceled. Therefore, the Section 112 rejections should be withdrawn.

Rejection of claims 9 and 10 under 103(a) as being unpatentable over Newman

Claim 9 requires a storable fluorescent inspection sheet having stored and recorded a radiation inspection image that has a density pattern in which one or more low density and high density regions have a contrast difference of at least 1:50 arrayed in a horizontal scanning direction.

The Examiner maintains that Newman discloses (column 1, lines 49-53) that it is desirable for the method to provide analysis of the exposure latitude and photometric response

linearity over the 10 000:1 storage phosphor dynamic range. Therefore, it would be obvious to one of ordinary skill to expose the inspection sheet of Newman with a 1:10,000 contrast difference test target and to analyze the 10,000:1 contrast difference radiation inspection image stored therein, in order to determining scanner performance (e.g., exposure latitude and photometric response linearity) over the 10,000:1 storage phosphor dynamic range.

The Examiner further states that in Newman "It is also desirable that the technique provide analysis of the following. 1) Exposure latitude and photometric response linearity over the 10,000:1 dynamic range of the storage phosphor". Therefore, it is clear that the storage phosphor has a dynamic range of 10,000:1 and that the technique should analyze the photometric response linearity over the 10,000:1 storage phosphor dynamic range.

As stated by the Examiner, Newman teaches analyzing exposure latitude and photometric response over the *dynamic range* of a storage phosphor. Newman does not analyze the *contrast* difference of low-density and high-density regions. "Contrast" is different from "dynamic range" as would be apparent to those skilled in the art. Merely because a dynamic range of 10,000:1 is disclosed in Newman does not mean that a contrast difference of 1:50, as claimed, is disclosed. Newman *at most* indicates that the contrast difference of 10,000:1 is "readable" according to the desirable mode of the technique disclosed in Newman, and has nothing to do with an actual contrast different realized on a test target or an inspection sheet. The largest actual contrast difference on the test target disclosed in Newman is about 1:33 (1:0.03, in reverse order) which is smaller than the contrast difference of 1:50 as set forth in claims 9 and 10.

Furthermore, Newman does not appear to describe low-density and high-density regions arrayed *in a horizontal scanning direction.*

The Examiner further states that Newman teaches the use of a *test target* for the analysis of scanner exposure latitude and linearity performance over the 10,000:1 storage phosphor dynamic range. Even if a target is created for the inspection, the resulting product need not be a storage phosphor with the contrast as claimed.

For the above reasons, claim 9 should be deemed patentable. Since claims 10 and 16 teach similar elements, they are patentable for the same reasons.

Rejection of claims 2, 3, 5, 6, 8, 12-14, 16, and 17 under 103(a) over Newman and Farrokhnia

Claims 16 and 17

Claims 16 and 17 describe that the inspection sheet has a boundary line between the low-density and high-density regions extending between opposite edges thereof. This exemplary embodiment of the present invention assists in determining which point between the opposite edges suffers from the negative influence of stray light.

Farrokhnia is directed to determining MTF (Modulation Transfer Function). In determining MTF, one point and only a few neighboring points thereof are required to be examined with respect to either dimension. In other words, there is no need to examine every point along a line between opposite edges. Therefore, those skilled in the art would not be motivated to extend the coupon edge of Farrokhnia all the way to the opposite edges. Therefore, claims 16 and 17 and their dependent claims should be deemed patentable.

Claim 2

The Examiner states that Newman does not teach the elements of claims 2, 3, 12 and 16 and cites Farrokhnia to cure the deficiency. The Examiner states that Farrokhnia teaches to

incline the straight boundary lines between a plurality of low-density and high-density regions with respect to the horizontal scanning direction in order to determine both horizontal and vertical MTF in an x-ray system (claim 2). Therefore, it would be obvious to one of ordinary skill to incline the straight boundary lines of Newman between a plurality of low-density and high-density regions with respect to the horizontal scanning direction, in order to determine a plurality of horizontal and vertical MTF along a line from one radiation inspection image edge to the opposing radiation inspection image edge.

However, claim 2 also requires that the boundary line be *between* a low-density region and a high-density region. Coupon edges 1410, which are the boundary lines cited by the Examiner, are not *between* a low density region 385 and a high density region 380. See Fig. 14.

In addition, there would be no reason to move coupon 375 so that the coupon edges 1410 would be between the high intensity contrast region 380 and the low intensity contrast region 385. In particular, if the coupon 375 were moved between 380 and 385 image normalization may be affected. Column 6, lines 35-38.

Furthermore, the Examiner has not established that the boundary lines 1410 intersect both edges of the radiation inspection image which extend in the vertical scanning direction, as further required in claim 2. Upon viewing Farrokhnia Fig. 14, it is apparent that boundary lines 1410 do not intersect any of the edges of the radiation inspection image.

Assuming more than one coupon was used, there is still no indication that the coupons would be aligned to form a boundary line which would extend to the edges of the radiation inspection image.

Moreover, there would be no reason for coupon edges 1410 to extend to the edges of the radiation image. For example, in Fig. 14, if coupon edges 1410 were extended to the edges of the radiation inspection image, high intensity contrast region 380 would be covered. In addition, as indicated above, there is no need to examine every point along a line between opposite edges in Farrokhnia. Furthermore, the Examiner has provided no reasoning as to why the coupon edges 1410 should be extended to the edges of the radiation inspection image.

Also, the combination of Farrokhnia and Newman is not obvious. If coupon 375 which contains coupon edges 1410 were placed between the lead masks of Newman (the process of which leads to a very precise target design), the densities desired in the precise target of Newman would be altered by the density of coupon 375.

The Examiner goes on to explain that coupon 375 performs both horizontal and vertical variation as opposed to resolution patterns 180 which can only be used to compute the horizontal MTF. It appears that the Examiner is stating that resolution patterns 180 should be removed in order to accommodate coupon edges which would extend to the edges of the radiation image.

There is absolutely no reason why resolution patterns 180 should be removed. It would appear that the resolution patterns 180 provide an increased determination of the horizontal MTF of the system, which is necessary for the operation of Farrokhnia. The Examiner's reasoning to remove the resolution patterns 180 is clearly a result of hindsight. Moreover, the Examiner is substantially altering the principle operation of Farrokhnia in order to establish the obviousness of the present invention. This substantial reconstruction of Farrokhnia evidences that the present invention is not obvious. MPEP 2143.01.

For the above reasons, claims 2, 3, 12 and 16 and their dependent claims should be deemed patentable. Since claims 5 and 17 require similar elements, claims 5 and 17 and their dependent claims are patentable for the same reasons.

Claim 3

Claim 3 requires that the density pattern in the radiation inspection image include two high-density regions and one low-density region arrayed in the horizontal scanning direction in the order of one high-density region, the low-density region and the other high-density region.

The Examiner has not established where two high-density regions and one low-density region are arrayed in Farrokhnia. Upon viewing Fig. 14 of Farrokhnia, numeral 385 represents a low intensity contrast region (which appears to be the low-density region of Farrokhnia) and numeral 380 represents a high intensity contrast region (which appears to be the high-density region of Farrokhnia). There is no indication of another high-density contrast region. Therefore, a high-density region, a low-density region and another high-density region are not arrayed in the inspection image of Farrokhnia. Thus, claim 3 should be deemed patentable. Since claim 6 requires similar elements, it is patentable for the same reasons.

Claim 13

Claim 13 describes a radiation transmittable member partially overlaps a storable fluorescent inspection sheet. The Examiner maintains that it would be obvious to provide a radiation transmittable member that partially overlaps the storable fluorescent inspection sheet in the method of Newman in order to obtain a plurality of clear areas.

The test target of Newman completely covers the storage phosphor sheet. There is absolutely no reason why Newman would be modified so that the radiation transmittable

member partially overlaps the storable fluorescent inspection sheet. In particular, if the test target were to only partially cover the storage phosphor sheet, certain boundary areas would not be exposed. For example, areas such as fast scan 8 and slow scan 9 would not be exposed. This would lead to for example, inaccurate geometric linearity calculations. Column 12, lines 63-67.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

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